AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application.

1. (Currently Amended) An optical switch comprising:

a polymer film ~~basically consisting of a polymer~~ including an internal linearly extending optical waveguide and a notch, the notch extending across the switching portion and being centrally located in said optical waveguide;

a keep plate having a switching through hole transverse to said polymer film, said polymer film being clamped by said keep plate with said switching portion located within said switching through hole; and

driving means~~, wherein said film has an optical waveguide linearly extending therein and a notch extending across a switching portion located halfway in said optical waveguide, said keep plate holds said film to expose said switching portion at said switching through hole, said driving means is employed~~ for selecting a route of light propagating in said optical waveguide by approximating and separating a gap of said notch, ~~and~~ wherein

said notch is formed by precedently forming a starting groove ~~on~~ in a first surface of said polymer film and pressing said switching portion with a pressing member from a ~~backside~~ second surface of said polymer film, opposite the first surface of said ~~starting groove~~ polymer film, while ~~holding~~ clamping said polymer film with said keep plate, thereby causing cleavage of said polymer film at said starting groove, and

said starting groove is located above a center of said optical waveguide by a distance longer than half the mode field diameter of a beam propagating through said optical waveguide.

Claim 2 (Cancelled).

3. (Previously Presented) The optical switch according to claim 1, wherein the width of an upper end of said starting groove is not more than 1 μm at the deepest position of said starting groove.

4. (Currently Amended) The optical switch according to claim 1, wherein the bottom of said notch is arcuate as viewed from a side, perpendicular to a longitudinal direction of said polymer film.

Claim 5 (Cancelled).

6. (Currently Amended) An optical switch comprising:

a polymer film ~~basically consisting of a polymer~~ including an internal linearly extending optical waveguide and a notch, the notch extending across the switching portion and being centrally located in said optical waveguide;

a keep plate having a switching through hole transverse to said polymer film, said polymer film being clamped by said keep plate with said switching portion located within said switching through hole and plastically deformed portions produced in forming said notch not located within said switching through hole and being clamped by said keep plate; and

driving means~~, wherein said film has an optical waveguide linearly extending therein and a notch extending across a switching portion located halfway in said optical waveguide, said keep plate holds said film to expose said switching portion at said switching through hole, said driving means is employed~~ for selecting a route of light propagating in said optical waveguide by approximating and separating a gap of said notch,~~ and~~ wherein said notch is formed by precedently forming a starting groove~~ on~~ in a first surface of said polymer film while clampling said polymer film with a cleavage keep plate having a cleavage through hole larger in area than said switching through hole and pressing said switching portion with a pressing member from a ~~backside~~ second surface of said polymer film, opposite the first surface of said ~~starting groove~~ polymer film, ~~while holding~~ said ~~film with a cleavage keep plate having a~~ cleavage through hole ~~to expose~~

exposing said switching portion ~~at said cleavage through hole~~, thereby causing cleavage~~, and the width of said cleavage through hole in a direction perpendicular to said notch is larger than the width of said switching through hole in the direction perpendicular to said notch~~ and plastic deformation in said polymer film at the periphery of said cleavage through hole

7. (Currently Amended) A method of manufacturing an optical switch including:

forming a starting groove in a first surface of a polymer film that includes an internal optical waveguide linearly extending within said polymer film, the starting groove corresponding to a switching portion of said polymer film,

~~holding a~~clamping said polymer film ~~basically consisting of a polymer and having an optical waveguide linearly extending therein~~ with a keep plate having a switching through hole, said polymer film being clamped so that the starting groove is located centrally within the switching through hole of said keep plate, and

pressing ~~a~~ said polymer film at a second surface, opposite the first surface and said starting groove ~~located on a surface portion of said film corresponding to a switching portion located halfway in said optical waveguide~~ with a pressing member ~~from the backside through said switching through hole, thereby~~ and causing cleavage ~~for~~ of said polymer film at said starting groove, forming a notch in said polymer film at the first surface extending across said switching portion ~~from~~ at said starting groove.

8. (Currently Amended) The method of manufacturing an optical switch according to claim 7, including alternately and repeatedly pressing said polymer film and not pressing said polymer film with said pressing member ~~for~~, fatiguing said polymer film ~~in~~ and causing cleavage of said polymer film at said starting groove.

9. (Currently Amended) The method of manufacturing an optical switch according to claim 8, including reciprocating said pressing member at a first stroke until said starting groove causes ~~a crack~~ cracking of said polymer film at said starting groove

and gradually increasing the stroke after said starting groove ~~causes said~~ starts propagation of a crack.

10. (Currently Amended) The method of manufacturing an optical switch according to claim 7, including pressing said polymer film on the second surface at two locations on opposite sides of said starting groove with said pressing member ~~at two points holding~~, said optical waveguide ~~therebetween~~ being located between the two locations.

11. (Currently Amended) The method of manufacturing an optical switch according to claim 7, including causing cleavage of said polymer film at the first surface while monitoring optical characteristics ~~related to a pressed point~~ of the optical switch.

12. (Currently Amended) The method of manufacturing an optical switch according to claim 7, further including crushing said switching portion from ~~a~~ the first surface ~~portion including said~~ of said polymer film at the notch, after forming said notch ~~through causing cleavage~~.

13. (Currently Amended) The method of manufacturing an optical switch according to claim 12, including crushing said switching portion with a load substantially equal to a load necessary for starting plastic deformation of said polymer film ~~to start plastic deformation~~.

14. (New) The method of manufacturing an optical switch according to claim 7, including, after forming said notch, annealing said polymer film.